

ALL WORK TO BE DONE IN ACCORDANCE WITH THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE - VUBSC (2006 EDITION) EFFECTIVE MAY 1, 2006.

NO LOADS IN EXCESS OF THE DESIGN LIVE LOADS LISTED SHALL BE IMPOSED UPON ANY AREA DURING CONSTRUCTION, UNLESS ADEQUATE SHORING OR OTHER MEANS IS PROVIDED TO SUPPORT THE EXCESSIVE LOADS.

IF ANY CHANGES ARE MADE IN WEIGHT AND/OR LOCATION OF POINTS OF SUPPORT OF EQUIPMENT, THE CONTRACTOR SHALL FURNISH DETAILS OF POINTS TO THE ARCHITECT FOR REVIEW AND NECESSARY MODIFICATIONS.

TEMPORARY BRACING, GUY WIRES, SHORING, ETC., SHALL BE USED AS NECESSARY TO RESIST ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED DURING CONSTRUCTION, INCLUDING EQUIPMENT AND ITS OPERATION.

THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. THE ERECTION PROCEDURE AND SEQUENCE INCLUDING THE DESIGN ADAPTATION AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC., IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

DRAWINGS DO NOT SHOW ALL OPENINGS. COORDINATE WITH MECHANICAL DRAWINGS. VERIFY SIZES AND LOCATIONS OF ALL OPENINGS WITH MECHANICAL.

REFER TO ARCHITECTURAL DRAWINGS FOR WATERPROOFING DETAILS.

THE ENGINEER SHALL NOT HAVE THE AUTHORITY OR RESPONSIBILITY TO SUPERVISE OR DIRECT THE CONSTRUCTION WORK.

ALL SECTIONS AND DETAILS, WHETHER EXPLICITLY CUT ON PLAN OR NOT, SHALL BE CONSIDERED TYPICAL AND SHALL APPLY AT SIMILAR CONDITIONS.

INFORMATION REGARDING STRUCTURAL MEMBERS INDICATED TO BE EXISTING WAS OBTAINED FROM LIMITED AVAILABLE EXISTING DRAWINGS. ACTUAL CONDITIONS MAY DIFFER FROM THAT WHICH IS INDICATED. IF THE CONTRACTOR UNCOVERS EXISTING CONDITIONS THAT DIFFER FROM THAT WHICH IS INDICATED ON PLAN, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD OF THE DISCREPANCY IN ORDER THAT THE CONDITION MAY BE RESOLVED.

FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO THE CONSTRUCTION AND FABRICATION OF ANY NEW STRUCTURAL MEMBERS.

SPECIAL INSPECTIONS ARE REQUIRED BY THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE (CHAPTER 17). REFER TO SECTION 014000 OF THE SPECIFICATIONS FOR THE GENERAL INSPECTION REQUIREMENTS. THE FOLLOWING IS A LIST OF ITEMS THAT REQUIRE SPECIAL INSPECTION. REFER TO THE REFERENCED SPECIFICATION SECTION FOR THE SPECIFIC REQUIREMENTS FOR EACH ITEM. THE INDEPENDENT INSPECTION AGENCY, ENGAGED BY THE OWNER, SHALL REVIEW THE TEST PROCEDURES AND INSPECTIONS WITH THE STRUCTURAL ENGINEER OF RECORD, THE GENERAL CONTRACTOR, AND THE OWNER PRIOR TO CONDUCTING TESTS AND INSPECTIONS.

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| A. EARTHWORK | SECTION 312000 |
| B. CAST-IN-PLACE CONCRETE | SECTION 033000 |
| C. UNIT MASONRY | SECTION 042000 |
| D. STRUCTURAL STEEL FRAMING | SECTION 051200 |

SHOP DRAWINGS: THE CONTRACTOR SHALL COORDINATE THE ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING, AND ELECTRICAL REQUIREMENTS WITH THE STRUCTURAL DRAWINGS, INCLUDING THE LOCATION OF MISCELLANEOUS ITEMS AFFECTING THE STRUCTURAL WORK SUCH AS OPENINGS, BENT PLATES, INSERTS, ETC. PROMPTLY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR OMISSIONS.

THE CONTRACTOR SHALL VERIFY ALL FLOOR AND ROOF MOUNTED MECHANICAL EQUIPMENT DIMENSIONS AND WEIGHTS, AND VERIFY ALL ROOF OPENING SIZES AND LOCATIONS, WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND REVIEWED SHOP DRAWINGS.

SHOP DRAWINGS ARE TO BE REVIEWED BY THE CONTRACTOR AND SUBCONTRACTOR PRIOR TO BEING SUBMITTED FOR APPROVAL.

DESIGN LOADS

A. BUILDING CLASSIFICATION (TABLE 1604.5)
CATEGORY III

B. LIVE LOADS

| | |
|----------------------|----------------------------|
| ROOF | 20 PSF |
| FLOOR | 50 PSF + 20 PSF PARTITIONS |
| LOBBIES (MAIN FLOOR) | 100 PSF |
| STORAGE | 125 PSF |

LIVE LOAD REDUCTION (NOT USED)
ROOF LIVE LOAD REDUCTION (NOT USED)

C. SNOW LOADS

P_g=15 PSF (GROUND SNOW)
C_e=1.0 (SNOW EXPOSURE FACTOR)
C_t=1.0 (THERMAL FACTOR)
I_s=1.1 (SNOW LOAD IMPORTANCE FACTOR; ASCE 7-05 TABLE 7-4)
P_f=0.7K_cC_e(C_t)(I_s)(P_g)SNOW LOAD FOR LOW-SLOPE ROOF
0.7X1.0X1.0X1.1X15 = 11.6 PSF
RAIN-ON-SNOW SURCHARGE (LOW-SLOPE ROOFS ONLY WHERE P_g< 20 PSF) = 5.0
TOTAL (LOW-SLOPE ROOF) = 11.6 PSF + 5.0 PSF = 16.6 PSF
MINIMUM P_f (LOW-SLOPE ROOF WHERE P_g< 20.0 PSF) =
(P_g)(I_s) = 15.0X1.1 = 16.5 PSF
USE 20 PSF MINIMUM

D. WIND LOADS

V=100 MPH (BASIC WIND SPEED; 3-SECOND GUST)
I_w=1.15 (WIND IMPORTANCE FACTOR; ASCE 7-05 TABLE 6-1)
EXPOSURE B
K_d=0.85 (WIND DIRECTIONALITY FACTOR)
K_z=1.0 (TOPOGRAPHIC FACTOR)
GCP1=±0.18 (ENCLOSED BUILDING)

WIND LOAD DETERMINATION BY:
ASCE 7-05, SECTION 6.5, METHOD 2 (ANALYTICAL PROCEDURE)

COMPONENTS AND CLADDING LOADS
(FOR FABRICATOR DESIGNED COMPONENTS)

E. SEISMIC LOADS

OCCUPANCY CATEGORY = III
I_e=1.25 (ASCE 7-05 TABLE 11.5-1)
SEISMIC SITE CLASS = D
S_s=13.9%
S₁=5.0%
F_a=1.60
F_v=2.40
S_{MS}=(F_a)(S_s)=(1.60)(13.9) = 22.2%
S_{M1}=(F_v)(S₁)=(2.40)(5.0) = 12.0%
S_{D5}=(2/3)(S_{MS}) = 14.8%
S_{D1}=(2/3)(S_{M1}) = 8.0%

SEISMIC DESIGN CATEGORY = B

BASIC STRUCTURAL SYSTEM:
BEARING WALL SYSTEM

SEISMIC - FORCE - RESISTING SYSTEM:
ORDINARY PLAIN MASONRY SHEAR WALLS

R = (RESPONSE MODIFICATION FACTOR) = 1.5
Ω₀ = (SYSTEM OVERSTRENGTH FACTOR) = 2.5
CD = (DEFLECTION AMPLIFICATION FACTOR) = 2.25

ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE METHOD
C_s = 12.3 %
SEISMIC BASE SHEAR = 139 KIPS

USE NO. 10 SCREWS (MINIMUM SIZE) IN ALL CONNECTIONS OF LIGHT GAUGE STEEL STRUCTURAL MEMBERS UNLESS NOTED OTHERWISE.


- EXISTING BUILDING LATERAL FORCE RESISTING SYSTEM APPEARS TO BE UNREINFORCED MASONRY SHEAR WALLS. ADDITIONAL WIND AND SEISMIC LOAD INCREASES WILL EXCEED 10% PER IBC 2006. DUE TO THE REMOVAL OF INTERIOR MASONRY BE WALLS, THE EXISTING CONSTRUCTION HAS BEEN REANALYZED PER THE IBC 2006 COMPLIES WITH CURRENT LATERAL FORCE REQUIREMENTS, NO LATERAL FORCE RESISTING SYSTEM ALTERATIONS OR ADDITIONS ARE REQUIRED.

GENERAL STRUCTURAL NOTES

**WORKING
DRAWINGS
NOT FOR
CONSTRUCTION**

Date: JANUARY 13, 2010


| REVISIONS | |
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